



**SPACE SHUTTLE PROGRAM**  
Space Shuttle Vehicle Engineering Office  
NASA Johnson Space Center, Houston, Texas



# **STS-100 FLIGHT READINESS REVIEW**

## **FERRY READINESS April 5, 2001**



## **STS-100 Flight Readiness Review Ferry Readiness**

Presenter **Don L. McCormack, Jr.**

Date **Apr. 5, 2001**

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### **Ferry Plan Summary**

- **Ferry Planning Readiness Review conducted on 3/23/01 with the following three issues identified**
  - **NEOM mass properties are within specified limits but will require 1300 lbs of Orbiter middeck ballast (or FCE left on-board)**
  - **On the OV-104 (STS-98) ferry flight, the vent assembly from the primary RCS thruster F2D universal thruster plug assembly (UTPA) was lost in flight**
    - **Troubleshooting indicates damaged threads on the UTPA precluded proper vent assembly installation**
    - **Corrective action (installation procedure change) in work**
  - **The LH ET ferry door attach bracket is cracked**
    - **Will require bracket removal and replacement at DFRC**



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### **Ferry Plan Summary - Continued**

- Ferry Flight Readiness Review to be conducted one day prior to planned ferry date
- Hardware summary:
  - Orbiter: OV-105 (Endeavour)
    - NEOM Ferry Weight (lbs): 220128 (No Fluids Off-loaded)
    - NEOM Ferry Center of Gravity (in): Xo 1116.0 Yo -0.8 Zo 373.6
      - » NEOM mass properties are within specified limits – requires 1300 lbs of Orbiter middeck ballast (or FCE left on-board)
  - Attach hardware and ferry plugs are ready to support
  - Tailcone 1 will be ready to support
  - Shuttle Carrier Aircraft (SCA): NASA 905
- Configuration drawings have been released



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### **Ferry Plan Summary - Continued**

- **DFRC seven day turnaround with ready-to-ferry on day eight (early morning)**
- **Flight plan:**
  - Day 1: Edwards AFB, CA to Dyess AFB, TX**
  - Dyess AFB, TX to Eglin AFB, FL (Rest Overnight)**
  - Day 2: Eglin AFB, FL to KSC SLF, FL**
- **Weather alternates and emergency landing fields selected**
- **Pathfinder: USAF C-141 or C-17 (based on availability)**
- **Purge - decision to deploy purge equipment based on predicted temperatures at potential ferry overnight stop locations**
  - **Purge circuit 2 (MPLM, ambient air temperature below 45 °F)**
  - **Purge circuit 1 (OMS/RCS, ambient air temperature below 45 °F)**



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### **STS-100 FERRY READINESS STATEMENT**

**A Ferry Planning Readiness Review was conducted in accordance with the Space Shuttle Vehicle Engineering Office flight preparation process plan contained in NSTS 08117, Requirements and Procedures for Certification of Flight Readiness. This certifies that aircraft, equipment, and ferry requirements are ready to support Orbiter ferry operations.**

**Don L. McCormack, Jr.  
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